In the Claims:

Claim 1. (Currently amended) A method for noninvasively determining the concentration of a blood constituent comprising the steps of:

providing a tissue probe, ~~having~~ said tissue probe including a first radiation emitter adapted to emit radiation ~~with~~ having a first wavelength and a first radiation detector ~~configured~~ adapted to receive ~~the first wavelength~~ said radiation after absorbance through a radiation path length of ~~the~~ a patient's blood;

measuring absorbance of ~~the~~ said patient's blood by ~~emitting~~ transmitting said radiation at ~~the~~ said first wavelength through ~~the~~ said patient's blood and detecting ~~the~~ said radiation after passage through ~~the~~ said patient's blood;

varying the volume of said patient's blood through gravitational force to change ~~the~~ said path length of ~~the~~ said tissue probe to provide multiples of said path length;

measuring absorbance of ~~the~~ said patient's blood at each multiple of ~~the~~ said path length; and

determining the concentration of the blood constituent based ~~upon the changing~~ on said measured absorbance.

Claim 2. (Currently amended) The method of ~~claim~~ Claim 1, wherein ~~the~~ said blood constituent comprises hemoglobin.

Claim 3. (Currently amended) The method of ~~claim~~ Claim 1, wherein ~~the~~ said blood ~~is~~ comprises venous blood.

Claim 4. (Currently amended) The method of ~~claim~~ Claim 1, wherein ~~the~~ said blood ~~is~~ comprises arterial blood.

Claim 5. (Currently amended) The method of ~~claim~~ Claim 1, further comprising the step of:

verifying ~~the~~ said determination of concentration by comparing ~~the~~ said radiation path length multiplied by ~~the~~ said determined concentration to ~~the~~ said measured absorbance.

Claim 6. (Currently amended) The method of ~~claim~~ Claim 1, wherein ~~the~~ said step of providing ~~a~~ tissue probe comprises providing a tissue probe having ~~a~~ first and second radiation ~~emitter with a first and second wavelength~~ emitters, said first radiation emitter being adapted to emit first radiation having a first wavelength, said second radiation emitter being adapted to emit second radiation having a second wavelength, and ~~a~~ first and second radiation ~~detector configured~~ detectors adapted to receive ~~the~~ said first and second ~~wavelengths~~ radiations, respectively, after absorbance through a radiation path length of ~~the~~ said patient's blood and wherein ~~the~~ said step of measuring ~~the~~ said absorbance comprises measuring ~~the~~ said absorbance at ~~the~~ said first and second wavelengths.

Claims 7 - 52. (Withdrawn)

Claim 53. (Currently amended) A method for noninvasively determining the concentration of a blood constituent comprising the steps of:

providing ~~a~~ at least one tissue probe, ~~having~~ said tissue probe including a first radiation emitter ~~with~~ adapted to emit radiation having a first wavelength and a first radiation detector ~~configured~~ adapted to receive ~~the first wavelength~~ said radiation after absorbance through a first path length of ~~the~~ a patient's blood;

measuring absorbance of ~~the~~ said patient's blood by ~~emitting~~ transmitting said radiation at ~~the~~ said first wavelength through ~~the~~ said patient's blood and detecting ~~the~~ said radiation after passage through ~~the~~ said patient's blood;

~~calculating~~ determining absorbance values of ~~the~~ said patient's blood at multiples of ~~the~~ said path length; and

determining the concentration of the blood constituent based ~~upon the changing~~ on said absorbance values.

Claim 54. (Withdrawn)

Claim 55. (Currently amended) A method for noninvasively determining the concentration of a blood constituent comprising the steps of:

providing ~~a~~ at least a first tissue probe, ~~having~~ said tissue probe including a first radiation emitter adapted to emit radiation and a first radiation detector ~~configured~~ adapted to receive said radiation after absorbance through ~~the~~ a patient's blood;

measuring first absorbance of ~~the~~ said patient's blood by ~~emitting~~ transmitting said radiation at a first wavelength through ~~the~~ said patient's blood and detecting ~~the~~ said first wavelength radiation after passage through ~~the~~ said patient's blood;

measuring second absorbance of ~~the~~ said patient's blood by emitting said radiation at a second wavelength through ~~the~~ said patient's blood and detecting ~~the~~ said second wavelength radiation after passage through ~~the~~ said patient's blood; and

determining the concentration of the blood constituent based ~~upon the~~ on said first and second absorbance ~~at the first and second wavelengths~~.

Claim 56. (New) The method of Claim 53, wherein said blood constituent comprises hemoglobin.

Claim 57. (New) The method of Claim 53, wherein said blood comprises venous blood.

Claim 58. (New) The method of Claim 53, wherein said blood comprises arterial blood.

Claim 59. (New) The method of Claim 55, wherein said blood constituent comprises hemoglobin.

Claim 60. (New) The method of Claim 55, wherein said blood comprises venous blood.

Claim 61. (New) The method of Claim 55, wherein said blood comprises arterial blood.